

3.11 Transportation/Traffic

This section describes the regulatory and environmental setting for transportation and traffic. It also describes the transportation and traffic impacts that would result from implementation of the Sand Hill Wind Project, and mitigation measures that would reduce these impacts where feasible and appropriate.

3.11.1 Existing Conditions

Regulatory Setting

Federal

The Federal Highway Administration (FHWA) is an agency within the U.S. Department of Transportation that supports state and local governments in the design, construction, and maintenance of the nation's highway system (Federal Aid Highway Program) and various federally and tribal owned lands (Federal Lands Highway Program) (Federal Highway Administration 2012).

Because the proposed wind repowering project is not a transportation project, there are no specific federal regulations that pertain to the project related to the use of interstate highways for project construction or operations traffic. Caltrans oversees these concerns for both state and interstate routes, as discussed below.

State

Caltrans is responsible for operating and maintaining all State-owned roadways and interstate highways in California. The California Vehicle Code Division 15 gives Caltrans discretionary authority to issue special permits for the movement of vehicles/loads exceeding statutory limitations on the size, weight, and loading of vehicles. A special permit issued by Caltrans is required to authorize the operation of oversize or overweight trucks. Although the project would involve placement of new large shrouded turbines no special vehicle weight or other permit conditions would be required. Each tower and turbine assembly would be constructed onsite from components that can be transported on conventional flatbed semi-trailers.

Caltrans also oversees the State Scenic Highway program, which applies to a portion of I-580 in the project vicinity, as discussed in Section 3.1, *Aesthetics*.

Finally, State law requires each city and county to adopt a comprehensive, long-range general plan, including a circulation element, to guide its physical development. The applicable Alameda County documents are described below.

Local

Alameda County General Plan

The Alameda County General Plan consists of three area plans that contain the Land Use and Circulation elements for their respective geographic areas, as well as area specific goals, policies and actions for circulation, open space, conservation, safety, and noise. In addition, the General Plan contains Housing, Conservation, Open Space, Noise, Seismic and Safety, and Scenic Route elements that contain goals, policies, and actions that apply to the entire unincorporated area (Alameda

County Community Development Agency 2013). Other than the Scenic Route goals and policies that are discussed in Section 3.1, *Aesthetics*, there are no countywide circulation policies related to transportation or traffic issues pertinent to the proposed Initial and Full Repower. Countywide transportation plans and policies are primarily developed and maintained by the Alameda County Transportation Commission, such as the Countywide Transportation Plan.

Alameda County East County Area Plan

Alameda County's *East County Area Plan* (ECAP), adopted in 1994 and amended by the voter-approved Initiative Measure D in November 2000, contains goals and policies pertinent to transportation and traffic issues on land use involving windfarms and on the area's transportation systems involving general transportation topics, transportation demand management, streets and highways, bicycle and pedestrian paths, and aviation (Alameda County Community Development Agency 2000:43, 50–56). Goals in the ECAP are intended to be general statements of a condition Alameda County wants to achieve, and the associated policies are the focused statements of how the County will achieve these goals. The goals and policies listed below may be relevant to the proposed Initial and Full Repower.

Land Use—Windfarms

Goal: To maximize the production of wind generated energy.

Policy 170: The County shall protect nearby existing uses from potential traffic, noise, dust, visual, and other impacts generated by the construction and operation of windfarm facilities.

Transportation Systems—General Transportation

Goal: To create and maintain a balanced, multi-modal transportation system that provides for the efficient and safe movement of people, goods, and services.

***Policy 179:** The County shall adhere to provisions of the Regional Transportation Plan, Countywide Transportation Plan, and County Congestion Management Program, insofar as they are not inconsistent with the Initiative.

Transportation Systems—Transportation Demand Management

Goal: To reduce East County traffic congestion.

Policy 183: The County shall seek to minimize traffic congestion levels throughout the East County street and highway system.

Policy 184: The County shall seek to minimize the total number of Average Daily Traffic (ADT) trips throughout East County.

Policy 185: The County shall seek to minimize peak hour trips by exploring new methods that would discourage peak hour commuting and single vehicle occupancy trips.

Policy 187: The County shall monitor traffic levels according to East County Area Plan and Congestion Management Program objectives.

Policy 188: The County shall promote the use of transit, ridesharing, bicycling, and walking, through land use planning as well as transportation funding decisions.

Policy 190: The County shall require new non-residential developments in unincorporated areas to incorporate Transportation Demand Management (TDM) measures and shall require new residential developments to include site plan features that reduce traffic trips such as mixed use development and transit-oriented development projects.

Policy 191: The County shall work with cities and the Congestion Management Agency to coordinate land use impact analyses.

Transportation Systems—Streets and Highways

Goal: To complete County-planned street and highway improvements that are attractively designed to integrate pedestrian and vehicle use.

Policy 192: The County shall work with Caltrans to improve the interstate and state highway systems and the County road system according to the street classifications shown on the East County Area Plan Transportation Diagram (see Figure 6), consistent with Policy 177.

Policy 193: The County shall ensure that new development pays for roadway improvements necessary to mitigate the exceedance of traffic Level of Service standards (as described below) caused directly by the development. The County shall further ensure that new development is phased to coincide with roadway improvements so that (1) traffic volumes on intercity arterials significantly affected by the project do not exceed Level of Service D on major arterial segments within unincorporated areas, and (2) that traffic volumes on Congestion Management Program (CMP) designated roadways (e.g., Interstate Highways 580 and 680 and State Highway 84) significantly affected by the project do not exceed Level of Service E within unincorporated areas. If LOS E is exceeded, Deficiency Plans for affected roadways shall be prepared in conjunction with the Congestion Management Agency. LOS shall be determined according to Congestion Management Agency adopted methodology. The County shall encourage cities to ensure that these Levels of Service standards are also met within unincorporated areas.

Transportation Systems—Bicycle and Pedestrian Paths

Goal: To include a comprehensive network of bicycle and pedestrian paths in the local and subregional transportation network.

Policy 211: The County shall create and maintain a safe, convenient, and effective bicycle system that maximizes bicycle use.

Policy 214: The County shall require that circulation and site plans for individual developments minimize barriers to access by pedestrians, the disabled, and bicycles (e.g., collectors or arterials separating schools or parks from residential neighborhoods).

Transportation Systems—Aviation

Goal: To ensure the efficient, safe, and economically beneficial operation of the Livermore Municipal Airport.

Policy 217: The County shall require that, where conflicts between a new use and the airport that could interfere with the airport's operations are anticipated, the burden of mitigating the conflicts will be the responsibility of the new use.

Alameda County Congestion Management Program

The Alameda County Congestion Management Program (CMP), adopted in 2009, identifies countywide strategies to respond to future transportation; on needs and procedures to reduce congestion. The CMP identifies existing and desired traffic conditions on a variety of roadways throughout the county. The only CMP designated roadway that extends through the project vicinity is I-580, which is a designated roadway for purposes of the CMP from I-680 to I-205 (Alameda County Congestion Management Agency 2009:15–16, Figure 1). The segment of I-580 in the immediate project vicinity is not one of the most congested corridors in the county, but the westbound lanes from North Flynn Road to west of Airway Boulevard (i.e., a segment beginning about 2 miles west of the project area) was identified as one of the top ten most congested corridors in the county in 2009 (Alameda County Transportation Commission 2012a:3-10)

Alameda Countywide Transportation Plan

The Alameda Countywide Transportation Plan (CWTP) is a long-range policy document that guides transportation funding decisions for Alameda County's transportation system over a 25-year horizon. The CWTP lays out a strategy for meeting transportation needs for all users in Alameda County and includes improvement projects for new and existing freeways, local streets and roads, public transit (paratransit, buses, rails, ferries), as well as facilities and programs to support bicycling and walking (Alameda County Transportation Commission 2012b). The CWTP goals for the county's transportation system are as follows.

- Multimodal.
- Accessible, affordable and equitable for people of all ages, incomes, abilities and geographies.
- Integrated with land use patterns and local decision-making.
- Connected across the county, within and across the network of streets, highways and transit, bicycle and pedestrian routes.
- Reliable and efficient.
- Cost effective.
- Well maintained.
- Safe.
- Supportive of a healthy and clean environment.

These goals are then aligned with one or more performance categories and performance measurements. The plan also identifies land use and conservation development strategies.

Alameda County Bicycle and Pedestrian Master Plan for Unincorporated Areas

The Bicycle and Pedestrian Master Plan describes existing conditions for bicycling and walking, identifies needs for capital and program improvements to support these modes, and recommends improvement projects to enhance bicycling and walking in the unincorporated areas. High priority projects that meet the short-term needs of the communities are identified. Strategies for education, funding and implementation of the recommended projects and programs are also provided. This plan was prepared to update the previous bicycle and pedestrian documents. It provides a vision for bicycling and walking in Alameda County as important alternative transportation modes. The plan also identifies implementable projects that will contribute to a more bicycle and pedestrian-friendly environment for the unincorporated areas.

The Bicycle and Pedestrian Master Plan contains goals and policies for developing and implementing a bikeway system and pedestrian improvements that meet the County's vision for safe, attractive, and convenient opportunities for bicycling and walking for all types of trips and user groups.

GOAL 1: Improve bicycle and pedestrian access and circulation for all users as a means to meet the goals of the Alameda County Unincorporated Areas Climate Action Plan.

GOAL 2: Create and maintain a comprehensive system of bicycle and pedestrian facilities in the local and sub-regional transportation network in order to establish a balanced multi-modal transportation system.

Policy 2.8: Routinely maintain bicycle and pedestrian facilities and amenities.

GOAL 3: Maximize the use of public and private resources for implementing bicycle and pedestrian improvements.

GOAL 4: Provide a safer bicycling and walking environment

Policy 4.1: Monitor bicycle and pedestrian-involved collisions in the Unincorporated Areas and target the high incidence locations for bicycle and pedestrian improvements.

Policy 4.4: Work with law enforcement officials on education and enforcement programs that increase safety awareness of all road users for bicyclists and pedestrians and that reduce bicycle and pedestrian-involved collisions.

GOAL 5: Promote land uses and urban design that support a pleasant environment for bicycling and walking.

Policy 5.2: Design new development and redevelopment projects to facilitate bicycle and pedestrian access, reduce bicycling and walking trip lengths, and avoid adverse impacts to the bicycle and pedestrian safety, access, and circulation.

Policy 5.3: Consider options for commercial and industrial development projects to include bicycle storage facilities for employees and customers, shower/locker areas, and other facilities identified in this plan for employees that commute by bicycle. This could include on-site facilities or services available through local partnerships. Encourage including bicycle parking and shower/locker areas in new construction or major remodel projects.

Policy 5.7: Require that all traffic impact studies and analyses of proposed street changes address impacts on bicycling and pedestrian transportation. Specifically, the following should be considered:

- Consistency with General Plan and the Bicycle and Pedestrian Master Plan policies;
- Impact on the existing and future Bicycle and Pedestrian Master Plan Bikeway System;
- Permanent travel pattern or access changes including the degree to which bicycle and pedestrian travel patterns are altered or restricted due to any change to the roadway network; and
- Conformity to accepted bicycle and pedestrian facility design standards and guidelines.

GOAL 6: Support agency coordination for the improvement of bicycle and pedestrian access.

Environmental Setting

Roadway Network

The project area is comprised of several parcels that lie north and south of I-580 in an unincorporated area of east Alameda County. Regional access is provided by I-580, a major east-west truck travel route and main thoroughway in eastern Alameda County that connects I-680 and I-238/I-880 on the west and SR 205 on the east (see Figure 3.11-1). I-580 would be the primary highway used for access to the project area. The Applicant has indicated that construction materials and turbine components would be delivered to the project area from the vicinity of the cities of Oakland, Stockton, and Tracy, and that workers would likely commute to the project area from Livermore, Stockton, and Tracy. Accordingly, in addition to use of I-580 in the project vicinity, the project would involve use of other major regional routes: I-580 west of Greenville Road, I-238 between I-580 and I-880, I-880 near Oakland, I-205 near Tracy, and I-5 near Stockton. Caltrans annual average daily traffic (AADT) volumes and composition of trucks data for these routes are provided in Table 3.11-1.

Table 3.11-1. Annual Average Daily Traffic Volumes on Regional Routes

| Roadway Name | Description | 2012 AADT Range (vehicles per day [vpd]) | 2011 Truck AADT (vpd) | 2011 Truck Volume (percent) |
|--|--|--|-----------------------------|-----------------------------------|
| I-580, in project vicinity | Junction I-205 East— Livermore, Greenville Road | 143,000– 182,000 | 3,625– 15,080 | 8.3–10.4 |
| I-580, west of project area | Livermore, Greenville Road—Junction I-238 | 142,000– 214,000 | 7,644– 20,374 | 4.6–12.2 |
| I-238, west of project area | Junction I-580—Junction I- 880 | 98,000– 138,000 | 7,600– 18,487 | 7.6–13.3 |
| I-880, Oakland | Junction I-238—Oakland, junction I-980 (AADT); Oak/Madison Streets, near I- 980 junction/split (truck volumes) | 193,000– 221,000 | 15,586– 23,540 | 8.4–10.7 |
| I-205, Tracy | Junction I-580—Junction I-5 | 82,000– 114,000 | 10,286– 13,680 | 11.2–12 |
| I-5, Stockton— Lathrop | Junction I-205 West— Stockton, Hammer Lane | 98,000– 142,000 | 21,696– 37,224 | 22.6–26.4 |
| Sources: California Department of Transportation 2013:23, 193, 201, 217, 225–226 ; California Department of Transportation 2012:23, 266, 289, 333, 343–344. | | | | |

Secondary roads in the project vicinity include Altamont Pass Road, Mountain House Road, North Midway Road, and West Grant Line Road. Existing gated entrances on Altamont Pass Road, North Midway Road, and Mountain House Road would be used to directly access the project parcels. There are existing unpaved private access roads within the wind farm parcels (see Figures 2-3 through 2-6).

Average daily traffic volumes have been collected for some of the local county roads in the project vicinity and are provided in Table 3.11-2. The posted speed limits on these county roads typically range from 45 to 50 miles per hour (mph) in the project vicinity, with a few segments that allow up to 55 mph, or limit speeds to 40 mph. Many county roads in the vicinity have insufficient road base to support heavy, frequent truck loads (Alameda County Public Works Agency 2013).

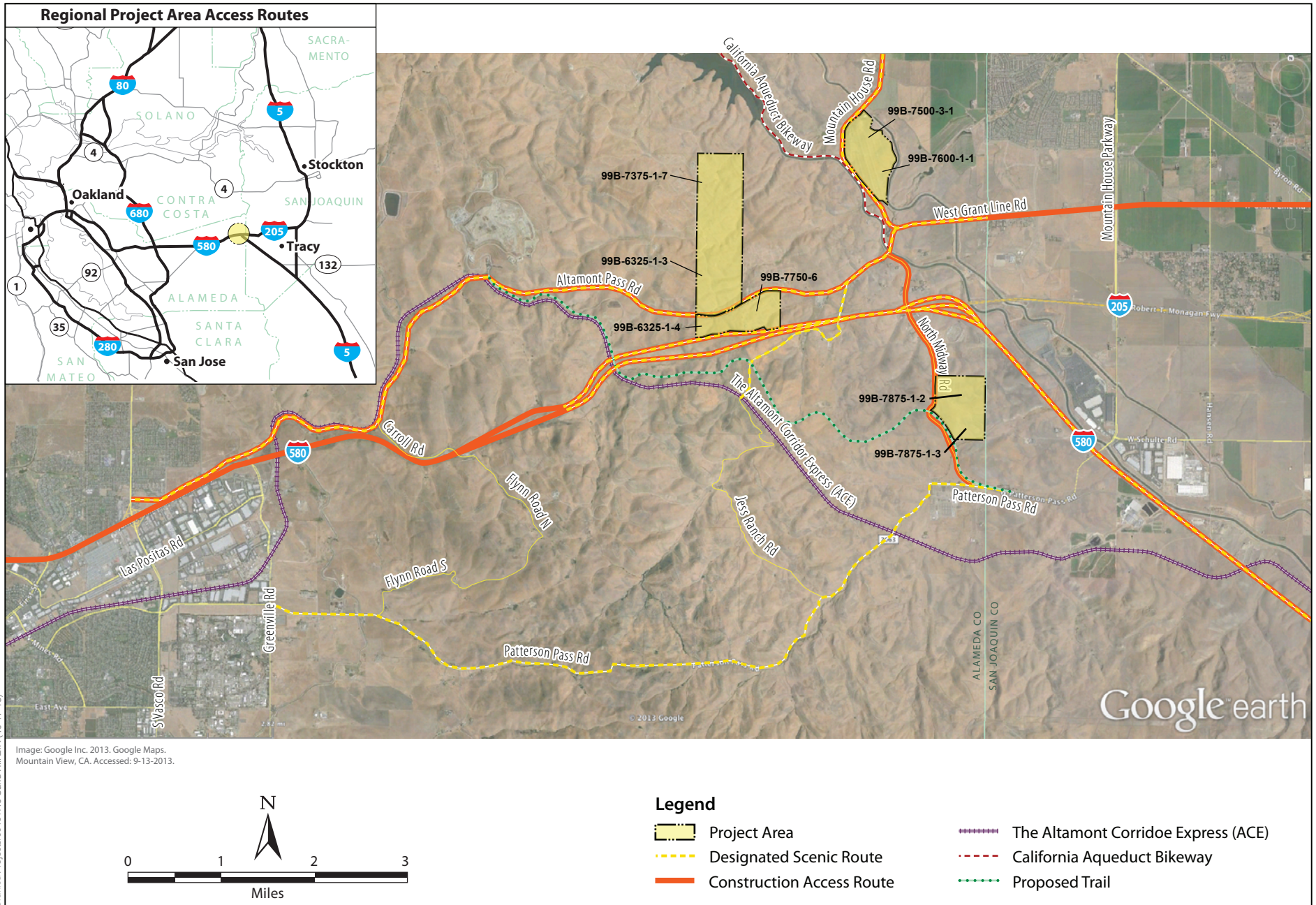


Figure 3.11-1
Major Transportation Routes in the Project Vicinity

Table 3.11-2. Average Daily Traffic Volumes on Public Roads in the Project Vicinity

| Roadway Name | Count Location | Count Date | Direction | ADT |
|---|----------------------------------|----------------|-------------|-------|
| Altamont Pass Road | West of Greenville Road | September 2011 | West Bound | 5,050 |
| | | | East Bound | 5,200 |
| Altamont Pass Road | West of Grant Line Road | September 2011 | West Bound | 3,550 |
| | | | East Bound | 2,300 |
| Grant Line Road | Alameda/San Joaquin County Line | September 2011 | West Bound | 2,900 |
| | | | East Bound | 1,650 |
| Midway Road | North of Patterson Pass Road | August 2012 | South Bound | 100 |
| | | | North Bound | 80 |
| Mountain House Road | Alameda/Contra Costa County Line | August 2012 | South Bound | 700 |
| | | | North Bound | 1,250 |
| Source: Alameda County Department of Public Works 2013. | | | | |

Public Transportation

Public transportation does not directly serve the rural project area. However, public transportation service between Stockton and San Jose is provided by Altamont Corridor Express (ACE) managed by the San Joaquin Regional Rail Commission. ACE provides commuter rail service between Stockton and San Jose. Station locations within the project vicinity include those in the cities of Tracy and Livermore (Altamont Corridor Express 2013). ACE currently provides weekday service with 4 trains in the morning westbound commute from Stockton to San Jose and 4 return trains eastbound to Stockton in the evening. ACE uses the Union Pacific Railroad (UPRR) tracks through the region. The route runs from Tracy, through the general project vicinity, south to southwest of the project area. The tracks cross Altamont Pass Road approximately 2.3 miles east of the project area and then run parallel along the north side of Altamont Road for about 3.5 miles before crossing again and heading south toward the Livermore station on Vasco Road (Figure 3.11-1).

Bikeway/Pedestrian Circulation

Alameda County Bicycle Master Plan for Unincorporated Areas (Bicycle Master Plan)

The Bicycle Master Plan identifies the following categories to describe the bikeway network in the unincorporated areas of Alameda County (Alameda County Public Works Agency and DeRobertis 2007).

- Class I (bike paths) are described as completely separated, off-street, paved right-of-way paths for the exclusive use of bicycles and pedestrians and minimize cross-flow.
- Class IA bike paths are unpaved trails where bikes are allowed. In the eastern unincorporated areas of the county there are unpaved trails open to bicycling even though they are not built to Caltrans standards. The Bay Area Ridge Trail and trails within the East Bay Regional Park District (EBRPD) and Livermore Area Recreation & Park District (LARPD) generally fall into this category.

- Class II (bike lanes) are striped lanes for one-way bike travel on a street or highway.
- Class III (bike routes) are on-street bike routes without striping provided for shared use with pedestrian or motor vehicle traffic. To meet the specific needs of the unincorporated areas, additional Class III designations are included in the Master Bikeway Plan.
 - Class IIIA (rideway) is a bike route with low traffic volumes and slow traffic (typically residential streets).
 - Class IIIB (bike route with wide curb lanes) defined to identify conditions for bicyclists on roads with high traffic volumes but where width is not available for bike lanes.
 - Class IIIC (rural bike route with wide shoulders) rural roads in the unincorporated areas, particularly the East County area, where paved shoulders generally provide good riding surfaces for bicyclists.

The only existing designated bikeway in the project vicinity is the recreational path along the California aqueduct (Figure 3.11-1). In addition, the 2012 Bicycle Master Plan recommends bikeway route additions to the existing bikeway network by designation of new Class IIIC rural bike routes on Altamont Pass Road, Patterson Pass Road, North Flynn Road, and South Flynn Road (Alameda County Public Works Agency 2012:3-18, Table 3-10) and the East Bay Recreation and Parks District (EBRPD) proposes a Class I bike trail that would become part of a larger regional network (Figure 3.11-1). Planned bicycle routes in the area would typically not serve a conventional bicycle commuter function, but primarily are intended as recreational and inter-regional access routes. Notably, the area is host to several annual spring, summer and fall bicycle touring, racing and charity events that utilize these rural bike routes, such as the well-known Amgen Tour of California, various rides by cycling clubs, and the Meals on Wheels ride. In 2013, a portion of Patterson Pass Road, south of the project area, was part of the Stage 7 Route of the Amgen Tour from Livermore to Mount Diablo (Amgen Tour of California 2013).

Air Traffic

There are four airports in the vicinity of the project area: Byron Airport is located about 4.5 miles north of the project area; Tracy Municipal Airport is located about 6.5 miles southeast of the project area; Meadowlark Field is located about 6.5 miles southwest of the project area; and Livermore Municipal Airport is over 11 miles southwest of the project area. The project area is outside of the airport protection areas for these airports.

3.11.2 Environmental Impacts

This section describes the impact analysis relating to transportation and traffic for the Initial and Full Repower phases. It describes the methods used to determine the impacts of the project and lists the criteria and conditions used to determine whether an impact would be significant. Measures to mitigate (i.e., avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany the impact discussion.

Methods for Analysis

The Initial and Full Repower construction and operation conditions were evaluated to determine whether it would result in a conflict with the goals or policies related to transportation, or traffic congestion and controls that apply to the project area. This review and evaluation included consideration of effects on alternative modes of transportation such as transit and bicycling as well as aviation.

Implementation of the Initial Repower phase would involve decommissioning and removal of 70–80 existing turbines and installation of 40 shrouded turbines. Because of the earthwork volumes involved and the need for materials deliveries, construction would intermittently generate substantial volumes of traffic during the decommissioning and installation of the wind turbines. Once the turbines are installed and in operation, maintenance needs would be very limited; traffic generation would be well within the capacity of the local roadway system and would not differ materially from current maintenance traffic levels. Analysis of traffic impacts therefore concentrated on construction activities.

The analysis used estimated construction traffic generation consistent with those developed for the evaluation of air quality impacts (see Section 3.3, *Air Quality* and Appendix C) to develop a qualitative evaluation of short-term impacts on the local and regional roadways in the project vicinity. As discussed in the *Air Quality* section, peak construction activity for the Initial Repower would occur in months 2 and 3. During these months, all phases of project site preparation and tower construction would be ongoing (see Table 3.3-7) with a total trips per day estimated at 440—a combination of 324 worker trips per day, 78 vendor trips per day, and 38 haul trips per day. While vendor and haul trips would be expected to occur throughout the day, worker trips would likely be split between morning arrivals at the project area and evening departures from the project area..

Haul trips for site preparation activities would include a total of 850 cement deliveries from local sources,. This would result in approximately 6 truck deliveries (round-trip) or 12 one-way trips per day during a peak day of construction activity. It is anticipated the concrete would be obtained from suppliers in Tracy, approximately 10 miles east of the project parcels. The trip generation rates for the site preparation and tower construction phases used in this analysis are shown in Table 3.11-3 (also refer to Appendix C).

Table 3.11-3. Site Preparation and Tower Construction — Offsite Trip Rate Assumptions

| Activity | Trips per day (one-way) | | |
|--|-------------------------|---------------------|----------------------|
| | Worker ^a | Vendor ^b | Hauling ^c |
| Site Preparation 1 | 23 | 0 | 12 |
| Site Preparation 2 | 8 | 0 | 0 |
| Site Preparation 3 | 5 | 0 | 0 |
| <i>Site Preparation, Subtotal</i> | <i>36</i> | <i>0</i> | <i>12</i> |
| Tower Construction 1 | 66 | 26 | 0 |
| Tower Construction 2 | 156 | 26 | 0 |
| Tower Construction 3 | 66 | 26 | 26 |
| <i>Tower Construction, Subtotal</i> | <i>288</i> | <i>78</i> | <i>26</i> |
| Site Preparation and Tower Construction, Total | 324 | 78 | 38 |

^a The analysis assumptions from the Applicant are that 50 percent of the workers would originate from west of the project area, from the Livermore area, and 50 percent of the workers would originate from east of the project area, from Stockton / Tracy areas.

^b Vendor trips / heavy equipment analysis assumptions are that 30 percent would originate from west of the project area and 70 percent from east of the project area (these trips from east of the project area would include the concrete haul trips).

^c Haul trips for concrete deliveries would be from local sources from Tracy (approximately 10 miles east of the project area).

Estimated trips generated for tower construction are also shown in Table 3.11-2. Worker trips would involve light duty vehicles that would be available for general use and minor hauling. Hauling trips during the tower construction phases are assumed to involve a total of 850 delivery trips for concrete from local sources and 240 long distance delivery trips for turbine parts. The distribution of these trips was estimated to be approximately 10 local truck deliveries (round trips) (20 one-way trips) per day and 3 long distance truck deliveries (round trips) (6 one-way trips) per day during a peak day of activity (also refer to Appendix C). Assumed trip lengths for hauling are 10 miles for local deliveries (from Tracy) and up to 40 miles for long distance deliveries (from Stockton or Oakland).

Impact Assumptions

Impacts on transportation systems and traffic are based on the following assumptions.

- Project-related traffic associated with O&M of the Initial and Full Repower phases would not be substantially greater than existing conditions.
- Generally, because the numbers of vehicles on roads vary from day-to-day and over the course of a day and routinely range plus or minus 5 percent, a change in traffic volume of 5 percent or less is generally not perceptible to the average motorist (Contra Costa County 2010:4.17-11). For this evaluation, changes in traffic volume of more than 5 percent are considered noticeable and would be significant.
- Distribution of construction-related traffic to the project parcels: because construction of the Initial and Full Repower phases would involve three parcel groups and work areas accessed by different roads, the construction trips would be anticipated to be distributed among those roads for construction access. The approximate distribution used for this evaluation considers the level of activity (turbine removal and installation of shrouded turbines) for each parcel group – west, northeast, and southeast. Based on the number of turbines to be removed and the number of turbines to be installed (see Chapter 2, *Project Description*, Table 2-1), the approximate distribution of construction activity would be 60 percent at the west parcels (accessed by Vasco Road off-ramp to Altamont Pass Road and West Grant Line Road), 30 percent at the northeast parcels (accessed by West Grant Line Road / Mountain House Road), and 10 percent at the southwest parcels (accessed by North Midway Road [the Applicant has stated that Patterson Pass Road would not be used for construction access]). Because final design details are unknown at this time, the Full Repower analysis assumes the same approximate distribution of construction-related traffic trips on local roads.
- Construction activities would occur between 7:00 a.m. and 7:00 p.m. Monday through Friday and between 8:00 a.m. and 6:00 p.m. on Saturdays and Sundays (see Chapter 2, *Project Description*).
- The AM peak period is 7:00 a.m. to 9:00 a.m. for regional routes and local roads.
- The PM peak period is 4:00 p.m. to 6:00 p.m. for regional routes and local roads.
- The weekend peak period is 1:00 p.m. to 3:00 p.m. for regional routes only. There is no peak period travel time associated with local roads.
- As discussed in Section 3.1, *Air Quality*, and Appendix C, under the Full Repower, construction activity would last for 9 months, and the level of activity would be expected to be increased by a factor of five, relative to the Initial Repower.

Determination of Significance

Based on Appendix G of the State CEQA Guidelines a proposed project would normally be required to determine if it would result in any of the conditions listed below.

- Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation, including mass transit and non-motorized travel and relevant components of the circulation system, including, but not limited to, intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.
- Conflict with an applicable congestion management program, including, but not limited to, level-of-service standards and travel demand measures or other standards established by the county congestion management agency for designated roads or highways.
- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.
- Substantially increase hazards because of a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- Result in inadequate emergency access.
- Conflict with adopted policies, plans, or programs regarding public transit, bicycle or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

Impacts and Mitigation Measures

This section describes impacts expected to occur with project implementation and mitigation measures, where applicable. Impacts resulting from the Initial Repower phase are presented first followed by a discussion of the Full Repower phase.

Initial Repower

Impact TRA-1: Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation, including mass transit and non-motorized travel and relevant components of the circulation system, including, but not limited to, intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit (less than significant for operations; less than significant with mitigation for construction traffic on regional routes; significant and unavoidable for construction traffic on local routes)

Operations

The Initial Repower would not entail any changes to existing land uses in the project area, and operation of the facilities would not be likely to generate any traffic beyond that presently associated with O&M activities of the current facility. Therefore, traffic related to O&M of the Initial Repower would have a less-than-significant impact related to causing any conflict with applicable plans, ordinances, or policies that establish performance standards for the local and regional circulation system, including all modes of transportation (i.e., highways, local county roads, bicycle routes, trails, and mass transit).

Construction

The ACE rail line is primarily outside of the project construction area, including access routes, and it is not anticipated that construction traffic would result in any delays in service. Therefore, construction traffic would result in a less-than-significant impact on the performance of ACE services.

Decommissioning and construction of the Initial Repower phase would generate increased traffic levels on regional and local roadways from worker commutes (expected to be in light-duty trucks or automobiles) and large construction vehicles used to transport materials and equipment from and to the project parcels. These activities would temporarily increase vehicle traffic on regional and local access routes in the project vicinity. Construction activities for the Initial Repower are anticipated to last approximately 6 months. As discussed above, during months 2 and 3, peak construction activity would result in total trips per day estimated at 440 trips—a combination of 324 worker trips (73.6 percent), 78 vendor trips (17.7 percent), and 38 haul trips (8.7 percent). While vendor and haul trips would be expected to occur throughout the day, worker trips would likely be split between morning arrivals at the project area and evening departures from the project area. The following sections provide an evaluation of potential construction-related traffic impacts on regional routes and local roads that are anticipated to be used for construction access.

Regional Routes

Table 3.11-4 presents an estimate of the construction-related impacts on regional routes for the Initial Repower phase.

Table 3.11-4. Estimated Construction Impact on Regional Routes – Initial Repower

| Roadway Name | Segment Description | 2012 Total AADT Segment Range (vpd) | 2011 Truck AADT (vpd) | Initial Repower-All Construction Trips (percent of Total AADT) | Truck Volume (percent of Construction Trips / Truck AADT) |
|-----------------------------|---|-------------------------------------|-----------------------|--|---|
| I-580, in project vicinity | Junction I-205 East—Livermore, Greenville Road | 143,000–182,000 | 3,625–15,080 | <1 (0.2–0.3) ^a | 26.4 / 0.8–3.2 ^a |
| I-580, west of project area | Livermore, Greenville Road—Junction I-238 | 142,000–214,000 | 7,644–20,374 | <1 (0.09–0.1) ^b | 17.8 / 0.2–0.5 ^b |
| I-238, west of project area | Junction I-580—Junction I-880 | 98,000–138,000 | 7,600–18,487 | <1 (0.03–0.04) ^c | 100 / 0.2–0.5 ^c |
| I-880, Oakland | Junction I-238—Oakland, junction I-980 (AADT); Oak/Madison Streets, near I-980 junction/split (truck volumes) | 193,000–221,000 | 15,586–23,540 | <1 (0.02) ^c | 100 / 0.2 ^c |

| Roadway Name | Segment Description | 2012 Total AADT Segment Range (vpd) | 2011 Truck AADT (vpd) | Initial Repower-All Construction Trips (percent of Total AADT) | Truck Volume (percent of Construction Trips / Truck AADT) |
|---------------|---|-------------------------------------|-----------------------|--|---|
| I-205, Tracy | Junction I-580— Junction I-5 | 82,000– 114,000 | 10,286– 13,680 | <1 (0.2–0.3) ^d | 33.3 / 0.6–0.8 ^d |
| I-5, Stockton | Junction I-205 West—Stockton, Hammer Lane | 98,000– 142,000 | 21,696– 37,224 | <1 (0.2–0.3) ^e | 33.3 / 0.2–0.4 ^e |

Sources: California Department of Transportation 2013:23, 193, 201, 217, 225–226; California Department of Transportation 2012:23, 266, 289, 333, 343–344.

^a Conservatively assumes all 440 daily trips would use this segment of I-580 in the project area (324 worker vehicle trips; 116 vendor/haul truck trips), although most trips originating from either direction will not travel the full segment because they would take the off-ramp closest to their point of delivery or departure.

^b Assumes 50 percent of worker trips (162 trips) and 30 percent of vendor / haul trips (35 truck trips) = 197 daily trips would originate west of the project area and utilize some portion of I-580 between Livermore and the I-238 junction; this is a conservative estimate related to worker trips as worker trips would be expected to be shorter distance, closer to Livermore area.

^c Assumes 30 percent of vendor / haul truck trips (35 truck trips) would originate from the Oakland area and would utilize this route.

^d Assumes 50 percent of worker trips (162 trips) and 70 percent of vendor / haul trips (81 truck trips) = 243 daily trips would originate east of the project area and utilize I-205 from the Tracy area.

^e Conservatively assumes 50 percent of worker trips (162 trips) and 70 percent of vendor / haul trips (81 truck trips) = 243 daily trips would originate east of the project area and I-5 from the Stockton area. The actual trip load for I-5 likely would be less because some portion of the worker and vendor / haul trips would be short distance, originate in or near Tracy, and would not use I-5, only I-205, to access the project area.

Generally, because the numbers of vehicles on roads vary from day-to-day and over the course of a day and routinely range plus or minus 5 percent, a change in traffic volume of 5 percent or less is generally not perceptible to the average motorist (Contra Costa County 2010:4.17-11). For this evaluation, changes in traffic volume of more than 5 percent are considered noticeable and would be significant. Table 3.11-3 demonstrates that the potential increases in traffic on major regional access routes to and from the project area from an estimated peak day of project-related construction trips would represent a less than 1 percent increase on all regional routes. These levels of daily construction traffic represent the peak daily traffic volumes that would be expected to travel on these regional routes during months 2 and 3 of the site preparation and tower construction phases for the Initial Repower (the months that would generate the highest level of offsite construction-related trips). Traffic generation for the remainder of the construction months would be less than these estimates. Overall, while the proposed construction-related trips would result in slightly higher traffic volumes on these routes, the increase would be less than 5 percent, and would not be expected to result in significant effects on the performance of these routes during off-peak travel periods. In addition, these regional routes are designed to handle truck traffic, and would not be as susceptible to road surface damage from the larger construction vehicles. Further, the Initial Repower would not involve transport of loads that would require

special permitting for weight or size, and would not result in excessive wear on these regional routes. Mitigation Measure TRA-1 would further reduce the level of impact by requiring notification and coordination with Caltrans and local city and county transportation agencies regarding construction activity details. Accordingly, the impact of project-related construction trips on the performance of regional routes, outside of peak travel periods, would be less than significant with mitigation.

The effects on local roads are discussed below, and the effect on the Alameda County and San Joaquin County CMP-designated routes and effects on these routes during the AM, PM, and weekend peak traffic periods are discussed in Impact TRA-2.

Local County Roads

Construction traffic would also cause a short-term increase in traffic volumes on the county roads that provide direct access to the project area. These roads —Mountain House Road, West Grant Line Road, North Midway Road, and Altamont Pass Road—generally have low traffic volumes, as presented in Table 3.11-5.

Table 3.11-5. Estimated Construction Traffic Impact on Local Roads – Initial Repower

| Roadway Name | Count Location | Direction | ADT | Construction Trips (percent of ADT) | Peak AM and PM Period Construction Trips (percent of ADT) |
|----------------------|----------------------------------|-------------|-------|-------------------------------------|---|
| Altamont Pass Road | West of Greenville Road | West Bound | 5,050 | 2.3 ^a | 0.08 |
| | | East Bound | 5,200 | 2.3 ^a | 0.08 |
| Altamont Pass Road | West of West Grant Line Road | West Bound | 3,550 | 3.3 ^a | 0.11 |
| | | East Bound | 2,300 | 5.1 ^a | 0.17 |
| West Grant Line Road | Alameda/San Joaquin County Line | West Bound | 2,900 | 9.6 ^b | 0.5 |
| | | East Bound | 1,650 | 16.9 ^b | 0.85 |
| North Midway Road | North of Patterson Pass Road | South Bound | 100 | 44 ^c | 2 |
| | | North Bound | 80 | 55 ^c | 2.5 |
| Mountain House Road | Alameda/Contra Costa County Line | South Bound | 700 | 18.9 ^d | 0.9 |
| | | North Bound | 1,250 | 10.6 ^d | 0.5 |

Source: Alameda County Department of Public Works 2013.

^a Assumes 50 percent of worker trips (162 trips) and 30 percent of vendor / haul trips (35 truck trips) = 197 daily trips would originate west of the project area and could utilize some portion Altamont Pass Road west of Greenville Road. The estimate assumes 60 percent = 118 daily trips would travel on Altamont Pass Road for access to the west parcel group and the remaining trips would continue on I-580 to access either West Grant Line Road or North Midway Road.

^b Assumes 50 percent of worker trips (162 trips) and 70 percent of vendor / haul trips (81 truck trips) = 243 daily trips would originate east of the project area and would utilize West Grant Line Road to access the west and northeast parcel groups. Additionally, trips from west of the project area would use West Grant Line Road for access to the northeast parcel group. The estimate for use of West Grant Line Road assumes

| Roadway Name | Count Location | Direction | ADT | Construction Trips (percent of ADT) | Peak AM and PM Period Construction Trips (percent of ADT) |
|--|----------------|-----------|-----|-------------------------------------|---|
| 30 percent of total trips from each direction will use some portion of West Grant Line Road for access to the northeast parcels and 60 percent of the total eastbound trips will use West Grant Line Road between I-580 and Altamont Pass Road for access to the west parcels. | | | | | |
| 30 percent westbound = 59 daily trips; 90 percent eastbound = 219 daily trips; = 278 total worker and truck trips on West Grant Line Road (total daily trips) | | | | | |
| ^c Assumes 10 percent of the total trips would use North Midway Road to access the southeast parcel group = 44 daily trips. | | | | | |
| ^d Assumes 30 percent of the total trips would use Mountain House Road to access the northeast parcel group = 132 daily trips. | | | | | |
| Bold values denote percent of ADT would be greater than 5 percent, considered a noticeable change in traffic volume and a significant impact. | | | | | |

Average Daily Traffic Volumes. As displayed in Table 3.11-4, travelers would experience noticeable (greater than 5 percent) and significant increases in daily traffic volume due to use of these roads by project-related construction vehicles in both directions on West Grant Line Road, North Midway Road, and Mountain House Road and in the east bound direction on Altamont Pass Road west of West Grant Line Road. As described in the *Impact Assumptions* and table notes, these estimates are derived from assumptions on the distribution of construction trips based on the anticipated level of turbine removal and installation in each of the three parcel group areas. The increases in traffic volume on these local county roads would be significant. Implementation of Mitigation Measure TRA-1 would alleviate some of the related performance and potential safety concerns, but may not reduce all impacts on the roadway system to less than significant. Accordingly, this impact on local roads would be significant and unavoidable for the duration of construction.

Peak Period Traffic Volumes. Based on the construction work hours, construction worker trips would not be expected to result in a significant contribution to weekday AM peak period traffic (7:00 a.m. to 9:00 a.m.) nor to PM peak period traffic (4:00 p.m. to 6:00 p.m.) because the majority of worker arrivals and departures to or from the project area would occur outside of the peak travel periods¹.

Vendor / hauling trips are assumed to occur throughout the day. Although the actual rate of trip generation is not known, for this evaluation, it is assumed vendor / hauling trips would occur at equal levels throughout the construction work day. Estimated trip generation throughout these work days, assuming equal hourly distribution of the 116 total vendor / hauling trips arriving at or departing the project parcels would be:

Weekday, 12-hour work day: 10 trips per hour (rounded up)

During peak construction phases (months 2 and 3 of Initial Repower construction), the project would contribute 20 trips during both the peak AM and PM periods. As discussed above, the Applicant anticipates that 30 percent of these trips (6 trips) would originate west of the project area, and 70 percent (14 trips) would originate east of the project area. Based on the anticipated level of work at each of the project parcel groups, these trips would be distributed as: 4 additional trips on Altamont Pass Road, west of Greenville Road and west of West Grant Line Road; 14 additional trips

¹ The weekend peak period analysis is applied to the regional routes but not to local routes.

on West Grant Line Road; 2 additional trips on North Midway Road; and 6 additional trips on Mountain House Road for the AM and PM peak travel periods. Although these trips would increase the estimated traffic volume on these roadways by less than 5 percent relative to the ADT, the addition of large construction vehicles during peak travel conditions on local county roads could contribute to congested conditions, particularly on Altamont Pass Road, Mountain House Road, and West Grant Line Road. Commuters use these roads, either as alternate routes or to access I-580 in the project vicinity, and this would be considered a significant impact on roadway performance and safety. Mitigation Measure TRA-1 would require the applicant to limit truck access to the project parcels during these typical peak commute hours. Accordingly, the potential effect of construction-related trips on local roadway performance during peak travel periods could be reduced.

Although these increases in traffic volume on local roads would be temporary and short-term, this would represent a noticeable change on road performance conditions, including wear-and-tear on these roads. Additionally, during construction, it may be necessary to create detour lanes to enable construction vehicle access and minimize roadway use conflicts with local travelers. The use of detours could involve construction of temporary roadway shoulders to create these detour lanes.

In addition, significant impacts on bicyclists that utilize Altamont Pass Road and the California aqueduct bike path could occur; it would be less likely for the project to result in any effects on bicyclists using Patterson Pass Road or Flynn Road because these roads would not be used for construction-related project area access routes by workers or vendor / haul trucks.

Overall, the construction traffic impact would be significant on the county roads that provide access to the project area and could result in conflicts with the ECAP policies intended to protect existing land uses from traffic impacts associated with construction of windfarm facilities (Policy 170), as well as the policies related to the ECAP goal to reduce East County traffic congestion (Policies 183, 184, 185). To the extent that construction activity results in safety concerns for bicyclists, there is potential for conflict with county policies intended to maintain and provide safe bicycling circulation facilities in the area. Although these effects would be short-term and temporary, they would be in conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system. Although construction of the Initial Repower would be a temporary activity, the introduction of construction-related traffic on local county roads would have the potential to conflict with existing policies regarding the effectiveness and performance of transportation systems in the project vicinity. Implementation of Mitigation Measure TRA-1 would reduce this impact, but not to a less-than-significant level. Therefore, this impact would be significant and unavoidable.

Mitigation Measure TRA-1: Develop and implement a construction traffic control plan

Prior to starting construction-related activities, the Applicant shall prepare and implement a Traffic Control Plan (TCP) that will reduce or eliminate impacts associated with the Initial Repower project. The TCP shall adhere to Alameda County and Caltrans requirements, and must be submitted for review and approval of the County Public Works Department prior to implementation. The TCP shall include the elements listed below. It is noted that the County and Caltrans may require additional elements to be identified during their review and approval of the TCP.

- Schedule construction hours to avoid the construction workers commuting to/from the project parcels during typical peak commute hours (7 a.m. to 9 a.m. and 4 p.m. to 6 p.m.).
- Limit truck access to the project parcels during typical peak commute hours (7 a.m. to 9 a.m. and 4 p.m. to 6 p.m.).

- Require that written notification be provided to contractors regarding appropriate haul routes to and from the project area, as well as the weight and speed limits on local county roads used to access the project area.
- Ensure access for emergency vehicles to and through the project area at all times.
- If lane/road closures are required during construction, the Applicant or its contractor, will provide advance notice to local fire, police, and emergency service providers to ensure that alternative evacuation and emergency routes are designated to maintain service response times.
- Provide adequate onsite parking for construction trucks and worker vehicles.
- Require suitable public safety measures in the project area and at the entrance roads, including fences, barriers, lights, flagging, guards, and signs, to give adequate warning to the public, including bicyclists that may use the project area bike routes or other county roadways, of the construction and of any dangerous conditions that could be encountered as a result thereof.
- Complete road repairs on local public roads as needed during construction to prevent excessive deterioration. This work may include construction of temporary roadway shoulders to support any necessary detour lanes.
- Ensure bicycle access on local county roads used by construction haul vehicles, including providing temporary bike routes to ensure access throughout the construction period.
- Repair or restore the road and road right-of-way to its original condition or better upon completion of the work.
- Coordinate related construction activities, including construction schedule, anticipated truck traffic, haul routes, and the timing for delivery of materials, with Alameda County, San Joaquin County, Caltrans, and the affected cities—Oakland, Stockton, and Tracy—to identify and minimize overlap with other area construction projects and to determine construction delivery schedules to avoid peak period congestion on CMP-designated routes (I-580, I-238, I-880, I-5, I-205).
- Coordinate with local and regional bicycling organizations regarding routes, events, and tours that use roads in the project vicinity, such as the California Amgen Tour's use of Patterson Pass Road.
- Provide local city and county emergency service providers with notification of the construction activity details – schedule, haul routes, detour routes, Applicant and contractor contact names and phone numbers – prior to and ongoing throughout the construction period if any changes are made.

Impact TRA-2: Conflict with an applicable congestion management program, including, but not limited to, level-of-service standards and travel demand measures or other standards established by the county congestion management agency for designated roads or highways (less than significant for operations; less than significant for construction-related worker commutes; less than significant with mitigation for construction-related truck trips)

As described above for Impact TRA-1, decommissioning and construction activities could affect local roadway operations. Regional access routes that may be used for project-related construction trips and are designated as part of the Alameda CMP roadway system include I-580, I-238, and I-880

(Alameda County Congestion Management Agency 2009:15, Table 3). Other CMP-designated routes that may be used for hauling trips for project construction include I-5, and I-205 in San Joaquin County (Dowling Associates 2010:3, Figure 1).

While the of service standards and travel demand measures established by county agencies such as the congestion management agency, are intended to regulate long-term traffic impacts associated with future development, this evaluation considers the potential effect of project-related operations and construction traffic on these CMP-designated routes.

Operations

The anticipated traffic associated with the Initial Repower operations would not be expected to differ substantially from existing conditions, and would not increase traffic volumes on area roads. Therefore, this impact would be less than significant. No mitigation is required.

Construction

Average Daily Traffic Volumes. As discussed under Impact TRA-1 (Table 3.11-3), total peak day construction-related traffic trips would be expected to represent a less than 1 percent increase of the AADT on the regional CMP-designated routes. While these project-related construction trips would not represent a substantial increase, including trucks, on these roadways, potentially short-term significant impacts would occur for roadway segments that are identified as deficient or operate at LOS F during peak AM and PM travel periods (in Alameda County). I-580 in the immediate project vicinity operates at LOS E, and would not be expected to be adversely affected by the estimated increase in traffic volume associated with Initial Repower construction traffic.

However, *The Alameda County 2012 LOS Monitoring Study* identifies several segments of I-580, I-238, and I-880 west of the project area as having LOS F during peak AM and peak PM travel periods (Alameda County Transportation Commission 2012c:12, Figure 2). Assuming approximately 50 percent of worker trips originate from the Livermore area and 30 percent of the total vendor and haul trips originate from or near Oakland, approximately 197 trips would be made each day during peak construction (i.e., months 2 and 3) affecting a portion of I-580 west of the project area and approximately 35 vendor / haul trips would be added to the daily traffic volumes on I-580 west of Livermore, and to I-238 and I-880. Similarly, I-5 and I-205 are part of the San Joaquin County CMP roadway network. These routes potentially would be used by vendors for the transport of project turbine components or other construction materials (e.g., concrete). While the majority of these routes operate at LOS D or better, I-205, which runs through northern Tracy is identified as LOS D, category 5, which signifies it is at risk for becoming deficient and there are sections of I-5 through Stockton that operate at LOS E or F (Dowling Associates 2010). Project-related construction trips on these roadways conservatively could be up to 243 additional daily one-way trips, depending on the location of vendors selected to supply concrete or other materials. These trips would result in short-term, temporary, but significant impacts on these roadway segments by exacerbating peak period congestion roadway performance and safety conditions.

Peak Period Traffic Volumes. Vendor / hauling trips are assumed to occur throughout the day, rather than be concentrated during the AM or PM peak travel periods. Although the actual rate of trip generation is not known, for this evaluation, it is assumed vendor / hauling trips would occur at equal levels throughout the construction work day. Estimated trip generation throughout these work days, assuming equal hourly distribution of the 116 total vendor / hauling trips arriving at or departing the project parcels would be:

Weekday, 12-hour work day: 10 trips per hour (rounded up)

Weekend day, 10-hour work day: 12 trips per hour (rounded up)

During peak construction phases (months 2 and 3 of Initial Repower construction), the project would contribute 20 trips during both the peak AM and PM periods. As discussed above, the Applicant anticipates that 30 percent of these trips (6 trips) would originate west of the project area, and 70 percent (14 trips) would originate east of the project area. Although these trips would result in a less than 5 percent change in the estimated volume of traffic on these roadways, the addition of large construction vehicles on CMP-designated deficient roadway segments—portions of I-580 west of Greenville Road (west), I-880, and segments of I-5 and I-205 (east) — during congested roadway conditions would be considered a significant impact on roadway performance and safety.

The weekend peak period is 1:00 p.m. to 3:00 p.m. Assuming vendor / haul trips would occur on both days of the weekend, the construction-related deliveries and hauling would contribute up to 24 trips during both Saturday and Sunday peak travel periods. The trip origination split is assumed to be the same as discussed previously, 30 percent (7 trips) from west of the project area and 70 percent (24 trips) from east of the project area. As for the weekday trips, although these trips would result in a less than 5 percent change in the estimated volume of traffic on these roadways, the addition of large construction vehicles on CMP-designated deficient roadway segments—portions of I-580 west of Greenville Road (west), I-880, and segments of I-5 and I-205 (east) — during congested roadway conditions would be considered a significant impact on roadway performance and safety.

Construction activity for the Initial Repower would be anticipated to generate a total of 324 worker trips. The Applicant anticipates that 50 percent of these trips would originate from Livermore, west of the project area and that 50 percent of these trips would originate from Stockton or Tracy, east of the project area (162 trips from each direction). For the evaluation of impacts on regional routes, these trips are assumed to be evenly split between morning commutes to the project area and evening commutes from the project area. Accordingly, there would be an increase of 81 worker-related trips in both directions during morning and evening periods. Based on construction work hours, it would be expected that the majority of worker commutes would avoid AM peak and PM peak travel periods on these roadways and would not exacerbate existing commute traffic congestion and related performance or safety concerns that may exist. The same would be expected for weekend worker commutes that would be anticipated to take place before 8:00 a.m. and after 6:00 p.m., avoiding the weekend peak period of 1:00 p.m. to 3:00 p.m. Therefore, it would be expected that project-related worker commute trips would have a less-than-significant impact on regional routes, including those that are CMP-designated deficient routes.

Overall, the addition of construction-related vendor / haul truck trips on I-580, I-238, and I-880 west of the project vicinity, and on I-5 and I-205 east of the project vicinity would result in a significant impact on CMP-designated deficient roadway segments, even though the anticipated increases would be less than 5 percent change in AADT. Implementation of Mitigation Measure TRA-1 would reduce the impact on these routes by requiring truck trips to avoid these peak travel periods. Because the contribution of construction-related trips would represent such a slight change in the overall AADT, shifting these trips to off-peak periods would alleviate the impact during peak travel periods without causing a substantial change in off-peak traffic volumes. Accordingly, this impact would be less than significant with mitigation.

Impact TRA-3: Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks (no impact)

The proposed Initial Repower would not affect air traffic patterns of the public and private airports in the project vicinity. Therefore, the Initial Repower is expected to have no impact on existing air traffic patterns. There would be no change in the location of any structure or facility that would result in new air traffic safety risks (other aspects of aircraft flight safety are addressed in Section 3.8, *Hazards and Hazardous Materials*).

Impact TRA-4: Substantially increase hazards because of a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment) (less than significant with mitigation)

The presence of large, slow-moving construction-related vehicles and equipment among the general-purpose traffic on roadways that provide access to the project area could cause other drivers to act impatiently and create traffic safety hazards. In addition, the slow-moving trucks entering or exiting the project area from public roads could pose a traffic hazard to other vehicles and increase the potential for turning movement collisions at the project area entrance intersections. The creation of potential traffic safety hazards as a result of construction trucks would be a significant impact.

Heavy truck traffic delivering equipment and materials to the project area could result in road wear and damage that result in a driving safety hazard. The degree to which this latter impact would occur depends on the existing roadway design (pavement type and thickness) and existing condition of the road. Freeways such as I-580, I-5, and I-205 are designed to accommodate a mix of vehicle types, including heavy trucks, and the construction vehicle impacts are expected to be negligible on those roads. However, county roads are not designed and constructed to the same standards as the interstate highways and could be damaged by construction traffic. As discussed in Chapter 2, *Project Description*, the smaller size of the shrouded turbines relative to conventional new generation turbines does not require the use of oversized vehicles for delivery. However, because of the substantial increase in the use of these roads, there is potential for damage to local roadways from construction-related vehicle use.

Implementation of Mitigation Measure TRA-1 would address the need for improvements and maintenance of roadway conditions during construction as well as postconstruction repairs. Additionally, this mitigation measure requires use of signage, fencing, as well as coordination with local transportation agencies, to increase other driver and bicyclist awareness and reduce safety or hazard concerns associated with the ongoing construction activities. Implementation of this mitigation measure would reduce this level to a less-than-significant level.

Some minor improvements, such as grading, adding aggregate base, and widening would be undertaken for the existing private roads within the project parcels. As currently planned, no new roads would be needed, only upgrades to existing internal private access roads. Implementation of Mitigation Measure TRA-1 would ensure these impacts would be mitigated to less than significant.

Mitigation Measure TRA-1: Develop and implement a construction traffic control plan

Refer to discussion of this mitigation measure under Impact TRA-1.

Impact TRA-5: Result in inadequate emergency access (less than significant with mitigation)

Slow-moving construction trucks could delay or obstruct the movement of emergency vehicles on county roads used for haul routes in the project area. In addition, if any lane/road closures are required during delivery of oversized loads, roadway capacity could be affected and potentially increase the response time for emergency vehicles if traveling through the area. Therefore, construction could significantly affect emergency vehicle access on local county roads in the project vicinity. The TCP required under the Mitigation Measure TRA-1 would reduce this impact to a less-than-significant level by ensuring there is adequate and appropriate emergency vehicle access and providing construction activity details to local emergency service providers.

The Initial Repower would also involve construction of private access roads within the project parcels; construction and use of these roads for the project would not affect access for emergency service providers.

Mitigation Measure TRA-1: Develop and implement a construction traffic control plan

Refer to discussion of this mitigation measure under Impact TRA-1.

Impact TRA-6: Conflict with adopted policies, plans, or programs regarding public transit, bicycle or pedestrian facilities, or otherwise decrease the performance or safety of such facilities (less than significant with mitigation)

Because the project parcels are in a rural area, opportunities for alternative transportation are limited. However, as noted in Impact TRA-1, the county and the EBRPD have identified proposed bike routes in the project vicinity (Figure 3.11-1). Although these currently are proposed route designations, construction-related lane closures, detours, and the presence of heavy construction vehicles on these routes, have the potential to cause short-term disruption of the routes and safety concerns for any bicyclists who use the routes. Implementation of Mitigation Measure TRA-1 would reduce this impact to less than significant.

Mitigation Measure TRA-1: Develop and implement a construction traffic control plan

Refer to discussion of this mitigation measure under Impact TRA-1.

Full Repower

Activities associated with repowering of the remaining 320–330 existing old technology wind turbines are expected to be the same as those described in Chapter 2, *Project Description*, for the Initial Repower, although on a much larger scale. As with the Initial Repower, activities associated with full repower of the remaining turbines would include decommissioning and removal of existing turbines, construction of new turbine foundations, power collection system and communication lines installation, turbine installation, and final cleanup and restoration. It is assumed that construction of the Full Repower would occur in a single phase.

Impact TRA-1[F]: Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation, including mass transit and non-motorized travel and relevant components of the circulation system, including, but not limited to, intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit (less than significant for operations;

significant and unavoidable for construction traffic on regional route: I-580/I-205 in project vicinity; less than significant for construction traffic on other regional routes; significant and unavoidable for construction traffic on local routes)

Operations

The addition of the new O&M facility would not substantially increase the number of daily trips to the project area. Therefore, traffic related to O&M of the Full Repower would have a less-than-significant impact related to causing any conflict with applicable plans, ordinances, or policies that establish performance standards for the local and regional circulation system, including all modes of transportation (i.e., highways, local county roads, bicycle routes, trails, and mass transit).

Construction

As described for the Initial Repower phase, the ACE rail line is outside of the project construction area and service would not be affected by construction traffic under the Full Repower phase. Therefore, construction traffic would result in a less-than-significant impact on the performance of ACE services (currently the only mass transit service in the project vicinity).

Decommissioning and construction of the Full Repower phase would generate increased traffic levels on regional and local roadways from worker commutes and large construction vehicles used to transport materials and equipment from and to the project parcels. Under the Full Repower, there would be an additional 68-acre parcel, part of the west parcel group that would not be part of the Initial Repower phase. No turbines would be removed from this parcel, but new facilities would be located there. Construction activities would temporarily increase vehicle traffic on regional and local access routes in the project vicinity. Under the Full Repower construction would be more intense—there would be more activity ongoing concurrently at more project parcels than anticipated during the Initial Repower. Based on the *Impact Assumptions* (see *Methods for Analysis*), the estimated total construction-related trips per day would be 2,200. If the distribution among worker trips, vendor trips, and haul trips is the same for the Full Repower as for the Initial Repower, these trips would be a combination of 1,606 worker trips, 396 vendor trips, and 198 haul trips. For this evaluation, it is anticipated that similar construction hauling and vendor delivery practices would be used for the Full Repower as for the Initial Repower—vendor and haul trips would occur throughout the day and worker trips would be split between morning arrivals at the project area and evening departures from the project area. The following sections provide an assessment of potential construction-related traffic impacts on regional routes and local roads that are anticipated to be used for construction access. The discussion assumes that the Full Repower construction trip origination and generation patterns would be similar to those described for the Initial Repower. It is recognized that when the Full Repower is constructed there would be updated AADT values for the regional routes and new roadway segments may be added to the county CMP roadway systems (to be updated on a 2-year cycle, next in 2014 and again in 2016); this evaluation uses the best information currently available.

Regional Routes

Table 3.11-6 presents an estimate of the construction-related impacts on regional routes for the Full Repower phase using the currently available AADT information.

Table 3.11-6. Estimated Construction Impact on Regional Routes – Full Repower

| Roadway Name | Segment Description | 2012 Total AADT Segment Range (vpd) | 2011 Truck AADT (vpd) | Full Repower-All Construction Trips (percent of Total AADT) | Truck Volume (percent of Construction Trips / percent of 2011 Truck AADT) |
|-----------------------------|---|-------------------------------------|-----------------------|---|---|
| I-580, in project vicinity | Junction I-205 East—Livermore, Greenville Road | 143,000–182,000 | 3,625–15,080 | 1.2–1.5 ^a | 27 / 3.9– 16.4 ^a |
| I-580, west of project area | Livermore, Greenville Road—Junction I-238 | 142,000–214,000 | 7,644–20,374 | < 1 (0.5–0.7) ^b | 18.1 / 0.9–2.3 ^b |
| I-238, west of project area | Junction I-580—Junction I-880 | 98,000–138,000 | 7,600–18,487 | <1 (0.1–0.2) ^c | 100 / 1–2.3 ^c |
| I-880, Oakland | Junction I-238—Oakland, junction I-980 (AADT); Oak/Madison Streets, near I-980 junction/split (truck volumes) | 193,000–221,000 | 15,586–23,540 | <1 (0.08–0.09) ^c | 100 / 0.8–1.1 ^c |
| I-205, Tracy | Junction I-580—Junction I-5 | 82,000–114,000 | 10,286–13,680 | 1.1–1.5 ^d | 34.1 / 3–4 ^d |
| I-5, Stockton | Junction I-205 West—Stockton, Hammer Lane | 98,000–142,000 | 21,696–37,224 | 0.9–1.2 ^e | 34.1 / 1.1–1.9 ^e |

Sources: California Department of Transportation 2013:23, 193, 201, 217, 225–226; California Department of Transportation 2012:23, 266, 289, 333, 343–344.

^a Conservatively assumes all 2,200 daily trips would use this segment of I-580 in the project area (1,606 worker trips; 594 vendor / haul trips), although most trips originating from either direction will not travel the full segment because they would take the off-ramp closest to their point of delivery or departure.

^b Assumes 50 percent of worker trips (803 trips) and 30 percent of vendor / haul trips (178 truck trips) = 981 daily trips would originate west of the project area and utilize some portion of I-580 between Livermore and the I-238 junction; this is a conservative estimate related to worker trips as worker trips would be expected to be shorter distance, closer to Livermore area.

^c Assumes 30 percent of vendor / haul truck trips (178 truck trips) would originate from the Oakland area and would utilize this route.

^d Assumes 50 percent of worker trips (803 trips) and 70 percent of vendor / haul trips (416 truck trips) = 1,219 daily trips would originate east of the project area and utilize I-205 from the Tracy area.

^e Conservatively assumes 50 percent of worker trips (803 trips) and 70 percent of vendor / haul trips (416 truck trips) = 1,219 daily trips would originate east of the project area and I-5 from the Stockton area. The actual trip load for I-5 likely would be less because some portion of the worker and vendor / haul trips would be short distance, originate in or near Tracy, and would not use I-5, only I-205, to access the project area.

Table 3.11-5 indicates that the potential increases in traffic on major regional access routes to and from the project area from an estimated peak day of project-related construction trips (all trips) would represent a less than 1 percent increase on routes west of the project area and a less than 2 percent increase on I-580 in the project vicinity and on routes east of the project area. For project-related truck trips, the estimates vary more, but, with the exception of I-580 in the project vicinity, the change in AADT from project-related construction truck trips would be less than 5 percent. At the I-580 junction with I-205, there would be a substantial and noticeable increase in truck traffic related to the addition of project-related trips on this route (16.4 percent). Although the actual AADT for these routes would be different at the time the Full Repower phase would be constructed, this provides some indication of the potential effect of the construction traffic on these routes. These levels of daily construction traffic would represent peak daily traffic volumes expected to travel these regional routes during the peak months of construction of the Full Repower. Because the Full Repower construction activity would be scheduled over 9 months, and would involve repowering 30 MW relative to 4 MW of the Initial Repower, the level of activity would be intensified during the 9 months. It is unknown what the duration of peak construction activity would be, but likely it would be more than 2 months as discussed for the Initial Repower. Overall, the addition of the project-related construction trips on these regional routes would be less than 5 percent of the 2012 AADT, with the exception of the I-580 junction with I-205, and generally would not be noticeable if trips do not occur during peak travel periods. Mitigation Measure TRA-1 would reduce the level of impact, but likely would not reduce the level of impact on I-580/I-205 in the project vicinity to less than significant. Accordingly, this impact would be significant and unavoidable on this route.

The effects on local roads are discussed below and the potential effect on the Alameda County and San Joaquin County CMP-designated routes and effects on these routes during the AM, PM, and weekend peak traffic periods are discussed in Impact TRA-2.

Local County Roads

Construction traffic under the Full Repower would be anticipated to result in a short-term increase in traffic volumes on the county roads that provide direct access to the project area. As stated above, these roads —Mountain House Road, West Grant Line Road, North Midway Road, and Altamont Pass Road—generally have low traffic volumes (Table 3.11-7).

Table 3.11-7. Estimated Construction Traffic Impact on Local Roads – Full Repower

| Roadway Name | Count Location | Direction | ADT | Construction Trips (percent of ADT) | Peak AM and PM Period Construction Trips (percent of ADT) |
|----------------------|---------------------------------|------------|-------|-------------------------------------|---|
| Altamont Pass Road | West of Greenville Road | West Bound | 5,050 | 11.7^a | 0.4 |
| | | East Bound | 5,200 | 11.3^a | 0.3 |
| Altamont Pass Road | West of West Grant Line Road | West Bound | 3,550 | 16.6^a | 0.5 |
| | | East Bound | 2,300 | 25.6^a | 0.8 |
| West Grant Line Road | Alameda/San Joaquin County Line | West Bound | 2,900 | 48^b | 2.5 |
| | | East Bound | 1,650 | 73.9^b | 4.4 |

| Roadway Name | Count Location | Direction | ADT | Construction Trips (percent of ADT) | Peak AM and PM Period Construction Trips (percent of ADT) |
|---------------------|----------------------------------|-------------|-------|-------------------------------------|---|
| North Midway Road | North of Patterson Pass Road | South Bound | 100 | More than double^c | 10 |
| | | North Bound | 80 | More than double^c | 12.5 |
| Mountain House Road | Alameda/Contra Costa County Line | South Bound | 700 | 94.3^d | 4.3 |
| | | North Bound | 1,250 | 52.8^d | 2.4 |

Source: Alameda County Department of Public Works 2013.

^a Assumes 50 percent of worker trips (803 trips) and 30 percent of vendor / haul trips (178 truck trips) = 981 daily trips would originate west of the project area and could utilize some portion Altamont Pass Road west of Greenville Road. The estimate assumes 60 percent = 589 daily trips would travel on Altamont Pass Road for access to the west parcel group and the remaining trips would continue on I-580 to access either West Grant Line Road or North Midway Road.

^b Assumes 50 percent of worker trips (803 trips) and 70 percent of vendor / haul trips (416 truck trips) = 1,219 daily trips would originate east of the project area and would utilize West Grant Line Road to access the west and northeast parcel groups. Additionally, trips from west of the project area would use West Grant Line Road for access to the northeast parcel group. The estimate for use of West Grant Line Road assumes 30 percent of total trips from each direction will use some portion of West Grant Line Road for access to the northeast parcels and 60 percent of the total eastbound trips will use West Grant Line Road between I-580 and Altamont Pass Road for access to the west parcels.

30 percent westbound = 294 trips; 90 percent eastbound = 1,097 trips;

= 1,391 total worker and truck trips on West Grant Line Road (total daily trips)

^c Assumes 10 percent of the total trips would use North Midway Road to access the southeast parcel group = 220 daily trips.

^d Assumes 30 percent of the total trips would use Mountain House Road to access the northeast parcel group = 660 daily trips.

Bold values denote a greater than 5 percent change in ADT due to construction traffic, considered a noticeable change in traffic volume and a significant impact.

Average Daily Traffic Volumes. Assuming a five-times increase in the number of peak day construction-related trips, it is evident that there would be substantial and noticeable (greater than a 5 percent increase) on all local roads that would be used for construction access routes in the project vicinity and the potential for conflict with policies, ordinances, or plans related to transportation system performance, including bicycle routes, would be significant.

As described for the Initial Repower evaluation, the approximate distribution used for this evaluation considers the level of activity (turbine removal and installation of shrouded turbines) for each parcel group – west, northeast, and southeast. Because the final design and layout for the Full Repower is unknown, the same distribution used for the Initial Repower evaluation is used to assess potential Full Repower effects (see *Impact Assumptions*). Implementation of Mitigation Measure TRA-1, discussed under Initial Repower Impact TRA-1, would help to reduce these effects, but not to a level that would be less than significant. Accordingly, this impact on local roads would be significant and unavoidable during construction.

Peak Period Traffic Volumes. Based on the work hours, construction worker trips would not be expected to result in a significant contribution to weekday AM nor PM peak period traffic because the majority of worker arrivals and departures to or from the project area would occur outside of the peak travel periods.

Estimated vendor/hauling trip generation throughout the work days, assuming equal hourly distribution of the 594 total vendor/hauling trips arriving at or departing the project parcels would be:

Weekday, 12-hour workday: 50 trips per hour (rounded up)

During peak construction phases, the project would contribute 100 trips during both the peak AM and PM periods. As discussed above, the Applicant anticipates that 30 percent of these trips (30 trips) would originate west of the project area, and 70 percent (70 trips) would originate east of the project area. Based on the anticipated level of work at each of the project parcel groups, these trips would be distributed as: 18 additional trips on Altamont Pass Road, west of Greenville Road and west of West Grant Line Road; 72 additional trips on West Grant Line Road; 10 additional trips on North Midway Road; and 30 additional trips on Mountain House Road for the AM and PM peak travel periods.

These trips would result in a less than 5 percent change in the estimated volume of traffic on Altamont Pass Road, West Grant Line Road, and Mountain House Road but a more than 5 percent change on North Midway Road relative to the ADT. Overall, the addition of large construction vehicles during peak travel conditions on local county roads could contribute to congested conditions, particularly on Altamont Pass Road, Mountain House Road, and West Grant Line Road used by commuters, either as alternate routes or to access I-580 in the project vicinity, and would be considered a significant impact on roadway performance and safety. Implementation of Mitigation Measure TRA-1 would reduce these impacts, by scheduling truck trips to avoid peak travel periods. However, because of the large number of daily trips, it is uncertain that all trips could be scheduled to avoid these travel periods and the overall impact on these roads may not be reduced to a less-than-significant level. Accordingly, the impact on local roads from the increased average daily and AM and PM peak period construction traffic would be significant and unavoidable.

Mitigation Measure TRA-1: Develop and implement a construction traffic control plan

Please refer to the discussion of Mitigation Measure TRA-1 under *Initial Repower*, Impact TRA-1.

Impact TRA-2[F]: Conflict with an applicable congestion management program, including, but not limited to, level-of-service standards and travel demand measures or other standards established by the county congestion management agency for designated roads or highways (less than significant for operations; significant and unavoidable during construction)

As described above for Impact TRA-1[F], decommissioning and construction activities would affect local roadway operations. Regional access routes that may be used for project-related construction trips and are designated as part of the Alameda CMP roadway system include I-580, I-238, and I-880 (Alameda County Congestion Management Agency 2009:15, Table 3). Other CMP-designated routes that may be used for hauling trips for project construction include I-5, and I-205 in San Joaquin County (Dowling Associates 2010:3, Figure 1).

While the of service standards and travel demand measures established by county agencies such as the congestion management agency, are intended to regulate long-term traffic impacts associated with future development, this evaluation considers the potential effect of project-related operations and construction traffic on these CMP-designated routes.

Operations

The anticipated traffic associated with the Full Repower operations would not be expected to differ substantially from existing conditions, and would not increase traffic volumes on area roads. Therefore, this impact would be less than significant. No mitigation is required.

Construction

Average Daily Traffic Volumes. As discussed under Impact TRA-1[F] (Table 3.11-5), total peak day construction-related traffic trips on CMP-designated roadways (regional routes) would be expected to represent less than 1 percent increase on regional routes west of the project area and a less than 2 percent increase on I-580 in the project vicinity and on regional routes east of the project area. While these project-related construction trips would not represent a substantial proportion of vehicles, including trucks (with the exception of the I-580 junction with I-205), on these roadways, potentially significant impacts would occur for roadway segments that are identified as deficient or operate at LOS F during peak AM and PM travel periods (in Alameda County). The increase of truck traffic on I-580 at the junction of I-205 in the project vicinity would be a significant impact. This segment is part of the Alameda County CMP-designated roadway network, although it operates at LOS E and is not currently identified as a deficient segment during AM or PM peak travel periods. An increase of over 16 percent would be considered substantial and would affect traffic flow and safety concerns from additional large trucks on the route.

Additionally, as identified in *The Alameda County 2012 LOS Monitoring Study* several segments of I-580 and I-880 west of the project area experience LOS F during peak AM and peak PM travel periods (Alameda County Transportation Commission 2012c:12, Figure 2). Although I-238 currently operates at LOS E or better, the 2012 LOS Study reports that since 2010, the level of service on segments of this route have degraded by two or more grades (i.e., from LOS A to LOS D). Therefore, there is potential for the portions of I-238 that may be used for project transport trips to become identified as deficient in one of the future CMP LOS studies (2014 or 2016) (Alameda County Transportation Commission 2012c:19). Assuming approximately 50 percent of worker trips originate from the Livermore area and 30 percent of the total vendor and haul trips originate from or near Oakland, approximately 981 trips would be made each day during peak construction, which because of the increased construction activity intensity, could last for 3 or more months relative to the 2-month peak period anticipated under the Initial Repower. The increased trip volume would affect a portion of I-580 west of the project area and approximately 178 vendor / haul trips would be added to the daily traffic volumes on I-580 west of Livermore, and to I-238 and I-880. Similarly, I-5 and I-205 are part of the San Joaquin County CMP roadway network. These routes potentially would be used by vendors for the transport of project turbine components or other construction materials (e.g., concrete). While the majority of these routes operate at LOS D or better, I-205, which runs through northern Tracy is identified as LOS D, category 5, which signifies it is at risk for becoming deficient and there are sections of I-5 through Stockton that operate at LOS E or F (Dowling Associates 2010). Project-related construction trips on these roadways conservatively could be up to 1,219 additional one-way trips, depending on the location of vendors selected to supply concrete or other materials. These trips would result in short-term, temporary, but significant impacts on these roadway segments.

Peak Period Traffic Volumes. Vendor / hauling trips are assumed to occur throughout the day, rather than be concentrated during the AM or PM peak travel periods. Although the actual rate of trip generation is not known, for this evaluation, it is assumed vendor / hauling trips would occur at

equal levels throughout the construction workday. Estimated trip generation throughout the work days, assuming equal hourly distribution of the 594 total vendor / hauling trips arriving at or departing the project parcels would be:

Weekday, 12-hour workday: 50 trips per hour (rounded up)

Weekend day, 10-hour workday: 60 trips per hour (rounded up)

During peak construction phases, the project would contribute 100 trips during both the weekday peak AM and PM periods. As discussed above, the Applicant anticipates that 30 percent of these trips (30 trips) would originate west of the project area, and 70 percent (70 trips) would originate east of the project area. Although, during off-peak conditions, these trips would result in a less than 5 percent change in the estimated volume of traffic on these roadways, the addition of large construction vehicles on CMP-designated deficient roadway segments—portions of I-580 west of Greenville Road (west) and segments of I-5 and I-205 (east) — during congested roadway conditions would be considered a significant impact on roadway performance and safety.

Assuming vendor / haul trips would occur on both days of the weekend, the construction-related deliveries and hauling would contribute up to 120 trips during both Saturday and Sunday peak travel periods. The trip origination split is assumed to be the same as discussed previously, 30 percent (36 trips) from west of the project area and 70 percent (84 trips) from east of the project area. As for the weekday trips, although these trips would result in a less than 5 percent change in the estimated volume of traffic on these roadways during off-peak periods, the addition of large construction vehicles on CMP-designated deficient roadway segments—portions of I-580 west of Greenville Road (west) and segments of I-5 and I-205 (east) — during congested roadway conditions would be considered a short-term significant impact on roadway performance and safety. Implementation of Mitigation Measure TRA-1 would reduce these impacts, by scheduling truck trips to avoid peak travel periods. However, it is uncertain that all trips could be scheduled to avoid these travel periods and the overall impact on these roads may not be reduced to a less-than-significant level. Accordingly, the impact on CMP-designated deficient roads from the increased peak period construction traffic would be significant and unavoidable.

Construction activity for the Full Repower would be anticipated to generate 1,606 daily worker trips on a peak day of construction. The Applicant anticipates that 50 percent of these trips would originate from Livermore, west of the project area and that 50 percent of these trips would originate from Stockton or Tracy, east of the project area (803 trips from each direction). For the evaluation of impacts on regional routes, these trips are assumed to be evenly split between morning commutes to the project area and evening commutes from the project area. Accordingly, there would be an increase of approximately 402 worker-related trips in both directions during morning and evening periods. Based on the planned construction work hours, it would be expected that the majority of worker commutes would avoid AM peak and PM peak travel periods on these roadways and would not exacerbate existing commute traffic congestion and related performance or safety concerns that may exist. The same would be anticipated for weekend worker commutes that would be expected to take place before 8:00 a.m. and after 6:00 p.m., avoiding the weekend peak period. Therefore, it would be expected that project-related worker commute trips would have a less-than-significant impact on regional routes, including those that are CMP-designated deficient routes, because they would not exacerbate existing congested conditions.

Overall, the addition of construction-related vendor / haul truck trips on I-580, I-238, and I-880 west of the project vicinity, and on I-5 and I-205 east of the project vicinity would result in a significant impact on CMP-designated deficient roadway segments, even though the anticipated

increases would represent a less than 5 percent change in AADT. Implementation of Mitigation Measure TRA-1 would reduce the impact on these routes but not to a less-than-significant level. Accordingly, this impact would be significant and unavoidable during construction.

Impact TRA-3[F]: Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks (no impact)

The Full Repower would be anticipated to replace existing turbines with shrouded turbines, and similar to the Initial Repower, would not result in changes to air traffic patterns or result in airspace concerns. There would be no impact. No mitigation is required.

Impact TRA-4[F]: Substantially increase hazards because of a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment) (significant and unavoidable)

The Full Repower would result in generation of up to 2,200 daily trips during peak periods of construction activity. This level of construction-related traffic would be a substantial increase in the traffic volume on local roads and would have the potential to result in traffic hazards or incompatible uses (e.g., large, slow moving vehicles) on local county roads used for access to project area as well as contribute to road deterioration or damage associated with on-going increased use of these roadways for the duration of construction (estimated to last 9 months). Implementation of Mitigation Measure TRA-1 would reduce this impact, but not to a less-than-significant level. Accordingly, this would be a short-term significant and unavoidable impact.

Impact TRA-5[F]: Result in inadequate emergency access (less than significant with mitigation)

The anticipated increase in construction traffic and activity would have the potential to adversely affect emergency access on local county roads. Implementation of Mitigation Measure TRA-1 would ensure adequate and appropriate emergency provider access would be available at all times and would require advance notification of construction activity schedules, haul routes, Applicant and contractor contact information. Accordingly, this impact would be less than significant with mitigation.

The level of traffic increase for operation of the Full Repower would not be substantially different than existing operations and the impact would be less than significant.

Mitigation Measure TRA-1: Develop and implement a construction traffic control plan

Please refer to the discussion of Mitigation Measure TRA-1 under *Initial Repower*, Impact TRA-1.

Impact TRA-6[F]: Conflict with adopted policies, plans, or programs regarding public transit, bicycle or pedestrian facilities, or otherwise decrease the performance or safety of such facilities (significant and unavoidable during construction)

The Full Repower construction-related traffic also would potentially conflict with policies in regard to bicycle facilities, affecting the performance (access) and safety of the rural bike paths proposed for the project vicinity. Although these currently are proposed route designations, construction-related lane closures, detours, and the presence of heavy construction vehicles on these routes, have the potential to cause short-term disruption of the routes and safety concerns for any bicyclists who

use the routes. In addition, it is anticipated that additional roadway improvements to local county roads used by construction vehicles will require intermittent repair and maintenance to minimize roadway deterioration. Implementation of Mitigation Measure TRA-1 would reduce the level of impact, and includes elements that address road repair during and following construction. This mitigation would not reduce the impact on bicycle routes to less than significant. Therefore, construction-related impacts on the performance or safety of bicycle facilities affected by construction traffic would be significant and unavoidable for the duration of construction (short-term and temporary, not permanent impact).

During operation of the Full Repower, there would be no conflict with these plans or policies and a less than significant impact on formal or informal bicycle facilities in the project vicinity. No additional mitigation is required for operation of the Full Repower. .

Mitigation Measure TRA-1: Develop and implement a construction traffic control plan

Please refer to the discussion of Mitigation Measure TRA-1 under *Initial Repower*, Impact TRA-1.

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